

**ABSTRACT**

5        A broadband ellipsometer is disclosed with an all-refractive optical system for  
focusing a probe beam on a sample. The ellipsometer includes a broadband light  
source emitting wavelengths in the UV and visible regions of the spectrum. The  
change in polarization state of the light reflected from the sample is arranged to  
evaluate characteristics of a sample. The probe beam is focused onto the sample using  
10    a composite lens system formed from materials transmissive in the UV and visible  
wavelengths and arranged to minimize chromatic aberrations. The spot size on the  
sample is preferably less than 3mm and the aberration is such that the focal shift over  
the range of wavelengths is less than five percent of the mean focal length of the  
system.

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